Beatriz Roldan Cuenya

List of Publications by Citations

191 papers	15,366 citations	62 h-index	121 g-index
219 ext. papers	18,854 ext. citations	10.7 avg, IF	7.35 L-index

#	Paper	IF	Citations
191	Particle size effects in the catalytic electroreduction of CO2 on Cu nanoparticles. *Journal of the American Chemical Society*, **2014**, 136, 6978-86	16.4	874
190	Synthesis and catalytic properties of metal nanoparticles: Size, shape, support, composition, and oxidation state effects. *Thin Solid Films*, **2010**, 518, 3127-3150	2.2	825
189	Highly selective plasma-activated copper catalysts for carbon dioxide reduction to ethylene. *Nature Communications*, **2016**, 7, 12123	17.4	644
188	Understanding activity and selectivity of metal-nitrogen-doped carbon catalysts for electrochemical reduction of CO. *Nature Communications*, **2017**, 8, 944	17.4	604
187	Nanostructured electrocatalysts with tunable activity and selectivity. *Nature Reviews Materials*, **2016**, 1,	73.3	523
186	Exceptional size-dependent activity enhancement in the electroreduction of CO2 over Au nanoparticles. *Journal of the American Chemical Society*, **2014**, 136, 16473-6	16.4	495
185	Rational catalyst and electrolyte design for CO2 electroreduction towards multicarbon products. *Nature Catalysis*, **2019**, 2, 198-210	36.5	493
184	Effects of annealing on properties of ZnO thin films prepared by electrochemical deposition in chloride medium. *Applied Surface Science*, **2010**, 256, 1895-1907	6.7	367
183	Catalytic activity of supported Au nanoparticles deposited from block copolymer micelles. *Journal of the American Chemical Society*, **2003**, 125, 7148-9	16.4	362
182	Shape-dependent catalytic properties of Pt nanoparticles. *Journal of the American Chemical Society*, **2010**, 132, 15714-9	16.4	358
181	In-situ structure and catalytic mechanism of NiFe and CoFe layered double hydroxides during oxygen evolution. *Nature Communications*, **2020**, 11, 2522	17.4	273
180	Plasma-Activated Copper Nanocube Catalysts for Efficient Carbon Dioxide Electroreduction to Hydrocarbons and Alcohols. *ACS Nano*, **2017**, 11, 4825-4831	16.7	264
179	Ultrathin High Surface Area Nickel Boride (NixB) Nanosheets as Highly Efficient Electrocatalyst for Oxygen Evolution. *Advanced Energy Materials*, **2017**, 7, 1700381	21.8	245
178	Nanocatalysis: size- and shape-dependent chemisorption and catalytic reactivity. *Surface Science Reports*, **2015**, 70, 135-187	12.9	237
177	Efficient Electrochemical Hydrogen Peroxide Production from Molecular Oxygen on Nitrogen-Doped Mesoporous Carbon Catalysts. *ACS Catalysis*, **2018**, 8, 2844-2856	13.1	223
176	Synthesis and Characterization of Ag- or Sb-Doped ZnO Nanorods by a Facile Hydrothermal Route. *Journal of Physical Chemistry C*, **2010**, 114, 12401-12408	3.8	196
175	Dynamic Changes in the Structure, Chemical State and Catalytic Selectivity of Cu Nanocubes during CO Electroreduction: Size and Support Effects. *Angewandte Chemie - International Edition*, **2018**, 57, 6192-6197	16.4	188

174	Synthesis and characterization of Cu-doped ZnO one-dimensional structures for miniaturized sensor applications with faster response. *Sensors and Actuators A: Physical*, **2013**, 189, 399-408	3.9	185
173	Synthesis and characterization of ZnO nanowires for nanosensor applications. *Materials Research Bulletin*, **2010**, 45, 1026-1032	5.1	182
172	Size- and support-dependent electronic and catalytic properties of Au0/Au3+ nanoparticles synthesized from block copolymer micelles. *Journal of the American Chemical Society*, **2003**, 125, 12928-34	16.4	180
171	Key role of chemistry versus bias in electrocatalytic oxygen evolution. *Nature*, **2020**, 587, 408-413	50.4	176
170	Metal nanoparticle catalysts beginning to shape-up. *Accounts of Chemical Research*, **2013**, 46, 1682-91	24.3	175
169	The role of in situ generated morphological motifs and Cu(i) species in C2+ product selectivity during CO2 pulsed electroreduction. *Nature Energy*, **2020**, 5, 317-325	62.3	165
168	Tailoring the Catalytic Properties of Metal Nanoparticles via Support Interactions. *Journal of Physical Chemistry Letters*, **2016**, 7, 3519-33	6.4	161
167	Structure- and Electrolyte-Sensitivity in CO Electroreduction. *Accounts of Chemical Research*, **2018**, 51, 2906-2917	24.3	154
166	Nanofabrication and characterization of ZnO nanorod arrays and branched microrods by aqueous solution route and rapid thermal processing. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **2007**, 145, 57-66	3.1	152
165	Silver-doped zinc oxide single nanowire multifunctional nanosensor with a significant enhancement in response. *Sensors and Actuators B: Chemical*, **2016**, 223, 893-903	8.5	145
164	Improved CO2 Electroreduction Performance on Plasma-Activated Cu Catalysts via Electrolyte Design: Halide Effect. *ACS Catalysis*, **2017**, 7, 5112-5120	13.1	142
163	Formation and Thermal Stability of Platinum Oxides on Size-Selected Platinum Nanoparticles: Support Effects. *Journal of Physical Chemistry C*, **2010**, 114, 22119-22133	3.8	140
162	Enhanced Carbon Dioxide Electroreduction to Carbon Monoxide over Defect-Rich Plasma-Activated Silver Catalysts. *Angewandte Chemie - International Edition*, **2017**, 56, 11394-11398	16.4	136
161	Formation and Thermal Stability of Au2O3on Gold Nanoparticles: Size and Support Effects. *Journal of Physical Chemistry C*, **2008**, 112, 4676-4686	3.8	135
160	Highly sensitive and selective hydrogen single-nanowire nanosensor. *Sensors and Actuators B: Chemical*, **2012**, 173, 772-780	8.5	128
159	Transition metal-based catalysts for the electrochemical CO reduction: from atoms and molecules to nanostructured materials. *Chemical Society Reviews*, **2020**, 49, 6884-6946	58.5	128
158	/ Electrocatalyst Characterization by X-ray Absorption Spectroscopy. *Chemical Reviews*, **2021**, 121, 882-961	68.1	127
157	Prism-Shaped Cu Nanocatalysts for Electrochemical CO2 Reduction to Ethylene. *ACS Catalysis*, **2018**, 8, 531-535	13.1	125

156	Bimetallic Pt-Metal catalysts for the decomposition of methanol: Effect of secondary metal on the oxidation state, activity, and selectivity of Pt. *Applied Catalysis A: General*, **2008**, 350, 207-216	5.1	112
155	Low Overpotential Water Splitting Using Cobalt□Cobalt Phosphide Nanoparticles Supported on Nickel Foam. *ACS Energy Letters*, **2016**, 1, 1192-1198	20.1	111
154	Long-range segregation phenomena in shape-selected bimetallic nanoparticles: chemical state effects. *ACS Nano*, **2013**, 7, 9195-204	16.7	110
153	Activity and Selectivity Control in CO2 Electroreduction to Multicarbon Products over CuOx Catalysts via Electrolyte Design. *ACS Catalysis*, **2018**, 8, 10012-10020	13.1	105
152	Nanostructured zinc oxide films synthesized by successive chemical solution deposition for gas sensor applications. *Materials Research Bulletin*, **2009**, 44, 63-69	5.1	100
151	Oxygen Chemisorption, Formation, and Thermal Stability of Pt Oxides on Pt Nanoparticles Supported on SiO2/Si(001): Size Effects. *Journal of Physical Chemistry C*, **2011**, 115, 16856-16866	3.8	99
150	Tuning Catalytic Selectivity at the Mesoscale via Interparticle Interactions. *ACS Catalysis*, **2016**, 6, 1075-1080	13.1	98
149	Operando Evolution of the Structure and Oxidation State of Size-Controlled Zn Nanoparticles during CO Electroreduction. *Journal of the American Chemical Society*, **2018**, 140, 9383-9386	16.4	94
148	Selective CO Electroreduction to Ethylene and Multicarbon Alcohols via Electrolyte-Driven Nanostructuring. *Angewandte Chemie - International Edition*, **2019**, 58, 17047-17053	16.4	93
147	Evolution of the structure and chemical state of Pd nanoparticles during the in situ catalytic reduction of NO with H2. *Journal of the American Chemical Society*, **2011**, 133, 13455-64	16.4	92
146	Synergistic Effect of Cobalt and Iron in Layered Double Hydroxide Catalysts for the Oxygen Evolution Reaction. *ChemSusChem*, **2017**, 10, 156-165	8.3	91
145	In situ gas-phase catalytic properties of TiC-supported size-selected gold nanoparticles synthesized by diblock copolymer encapsulation. *Surface Science*, **2006**, 600, 5041-5050	1.8	91
144	Influence of the Fe:Ni Ratio and Reaction Temperature on the Efficiency of (FexNi1□)9S8 Electrocatalysts Applied in the Hydrogen Evolution Reaction. *ACS Catalysis*, **2018**, 8, 987-996	13.1	90
143	Effect of interparticle interaction on the low temperature oxidation of CO over size-selected Au nanocatalysts supported on ultrathin TiC films. *Catalysis Letters*, **2007**, 113, 86-94	2.8	88
142	Solving the structure of size-selected Pt nanocatalysts synthesized by inverse micelle encapsulation. *Journal of the American Chemical Society*, **2010**, 132, 8747-56	16.4	86
141	Carbon monoxide-assisted size confinement of bimetallic alloy nanoparticles. *Journal of the American Chemical Society*, **2014**, 136, 4813-6	16.4	85
140	The chemical identity, state and structure of catalytically active centers during the electrochemical CO reduction on porous Fe-nitrogen-carbon (Fe-N-C) materials. *Chemical Science*, **2018**, 9, 5064-5073	9.4	82
139	Electrochemical Oxidation of Size-Selected Pt Nanoparticles Studied Using in Situ High-Energy-Resolution X-ray Absorption Spectroscopy. *ACS Catalysis*, **2012**, 2, 2371-2376	13.1	78

138	Eu-doped ZnO nanowire arrays grown by electrodeposition. *Applied Surface Science*, **2013**, 282, 782-788	6.7	76
137	The Role of the Copper Oxidation State in the Electrocatalytic Reduction of CO2 into Valuable Hydrocarbons. *ACS Sustainable Chemistry and Engineering*, **2019**, 7, 1485-1492	8.3	75
136	Electronic properties and charge transfer phenomena in Pt nanoparticles on Al2O3: size, shape, support, and adsorbate effects. *Physical Chemistry Chemical Physics*, **2012**, 14, 11766-79	3.6	74
135	Operando Insight into the Correlation between the Structure and Composition of CuZn Nanoparticles and Their Selectivity for the Electrochemical CO Reduction. *Journal of the American Chemical Society*, **2019**, 141, 19879-19887	16.4	72
134	Shape-selected bimetallic nanoparticle electrocatalysts: evolution of their atomic-scale structure, chemical composition, and electrochemical reactivity under various chemical environments. *Faraday Discussions*, **2013**, 162, 91-112	3.6	71
133	Support Dependence of MeOH Decomposition Over Size-Selected Pt Nanoparticles. *Catalysis Letters*, **2007**, 119, 209-216	2.8	70
132	Plasma-Modified Dendritic Cu Catalyst for CO Electroreduction. *ACS Catalysis*, **2019**, 9, 5496-5502	13.1	67
131	CO2 electroreduction on copper-cobalt nanoparticles: Size and composition effect. *Nano Energy*, **2018**, 53, 27-36	17.1	64
130	Electrocatalytic CO Reduction on CuO Nanocubes: Tracking the Evolution of Chemical State, Geometric Structure, and Catalytic Selectivity using Operando Spectroscopy. *Angewandte Chemie - International Edition*, **2020**, 59, 17974-17983	16.4	62
129	Operando Insights into Nanoparticle Transformations during Catalysis. *ACS Catalysis*, **2019**, 9, 10020-10043	13.1	61
128	Trends in the binding strength of surface species on nanoparticles: how does the adsorption energy scale with the particle size?. *Angewandte Chemie - International Edition*, **2013**, 52, 5175-9	16.4	60
127	Imaging electrochemically synthesized CuO cubes and their morphological evolution under conditions relevant to CO electroreduction. *Nature Communications*, **2020**, 11, 3489	17.4	60
126	Enhanced Stability and CO/Formate Selectivity of Plasma-Treated SnO /AgO Catalysts during CO Electroreduction. *Journal of the American Chemical Society*, **2019**, 141, 5261-5266	16.4	59
125	Element-resolved thermodynamics of magnetocaloric LaFe(13-x)Si(x). *Physical Review Letters*, **2015**, 114, 057202	7.4	59
124	Shape-Controlled Nanoparticles as Anodic Catalysts in Low-Temperature Fuel Cells. *ACS Energy Letters*, **2019**, 4, 1484-1495	20.1	58
123	Size-dependent reactivity of gold-copper bimetallic nanoparticles during CO2 electroreduction. *Catalysis Today*, **2017**, 288, 30-36	5.3	56
122	Coarsening phenomena of metal nanoparticles and the influence of the support pre-treatment: Pt/TiO2(110). *Surface Science*, **2012**, 606, 908-918	1.8	55
121	Revealing the Active Phase of Copper during the Electroreduction of CO in Aqueous Electrolyte by Correlating X-ray Spectroscopy and Electron Microscopy. *ACS Energy Letters*, **2020**, 5, 2106-2111	20.1	54

120	Stability of platinum nanoparticles supported on SiO2/Si(111): a high-pressure X-ray photoelectron spectroscopy study. *ACS Nano*, **2012**, 6, 10743-9	16.7	53
119	Reactivity Determinants in Electrodeposited Cu Foams for Electrochemical CO Reduction. *ChemSusChem*, **2018**, 11, 3449-3459	8.3	53
118	Dynamic Changes in the Structure, Chemical State and Catalytic Selectivity of Cu Nanocubes during CO2 Electroreduction: Size and Support Effects. *Angewandte Chemie*, **2018**, 130, 6300-6305	3.6	51
117	Size Dependent Study of MeOH Decomposition Over Size-selected Pt Nanoparticles Synthesized via Micelle Encapsulation. *Catalysis Letters*, **2007**, 118, 1-7	2.8	51
116	Towards the Understanding of Sintering Phenomena at the Nanoscale: Geometric and Environmental Effects. *Topics in Catalysis*, **2013**, 56, 1542-1559	2.3	50
115	In situ coarsening study of inverse micelle-prepared Pt nanoparticles supported on Al2O3: pretreatment and environmental effects. *Physical Chemistry Chemical Physics*, **2012**, 14, 11457-67	3.6	49
114	Probing the chemical state of tin oxide NP catalysts during CO2 electroreduction: A complementary operando approach. *Nano Energy*, **2018**, 53, 828-840	17.1	48
113	New insights into working nanostructured electrocatalysts through operando spectroscopy and microscopy. *Current Opinion in Electrochemistry*, **2017**, 1, 95-103	7.2	47
112	Size-selected Pt Nanoparticles Synthesized via Micelle Encapsulation: Effect of Pretreatment and Oxidation State on the Activity for Methanol Decomposition and Oxidation. *Catalysis Letters*, **2009**, 131, 21-32	2.8	45
111	Thermodynamic properties of Pt nanoparticles: Size, shape, support, and adsorbate effects. *Physical Review B*, **2011**, 84,	3.3	44
110	Structure, chemical composition, and reactivity correlations during the in situ oxidation of 2-propanol. *Journal of the American Chemical Society*, **2011**, 133, 6728-35	16.4	44
109	Bio-inspired design: bulk iron-nickel sulfide allows for efficient solvent-dependent CO reduction. *Chemical Science*, **2019**, 10, 1075-1081	9.4	43
108	Pressure-Dependent Effect of Hydrogen Adsorption on Structural and Electronic Properties of Pt/Al2O3 Nanoparticles. *ChemCatChem*, **2014**, 6, 348-352	5.2	43
107	Operando Phonon Studies of the Protonation Mechanism in Highly Active Hydrogen Evolution Reaction Pentlandite Catalysts. *Journal of the American Chemical Society*, **2017**, 139, 14360-14363	16.4	42
106	Enhanced Carbon Dioxide Electroreduction to Carbon Monoxide over Defect-Rich Plasma-Activated Silver Catalysts. *Angewandte Chemie*, **2017**, 129, 11552-11556	3.6	42
105	Correlating Catalytic Methanol Oxidation with the Structure and Oxidation State of Size-Selected Pt Nanoparticles. *ACS Catalysis*, **2013**, 3, 1460-1468	13.1	42
104	Anomalous lattice dynamics and thermal properties of supported size- and shape-selected Pt nanoparticles. *Physical Review B*, **2010**, 82,	3.3	41
103	Operando Investigation of Ag-Decorated Cu O Nanocube Catalysts with Enhanced CO Electroreduction toward Liquid Products. *Angewandte Chemie - International Edition*, **2021**, 60, 7426-7435	16.4	41

102	Partial Oxidation of Methane to Syngas Over Nickel-Based Catalysts: Influence of Support Type, Addition of Rhodium, and Preparation Method. *Frontiers in Chemistry*, **2019**, 7, 104	5	40
101	Local investigation of the electronic properties of size-selected Au nanoparticles by scanning tunneling spectroscopy. *Applied Physics Letters*, **2006**, 89, 043101	3.4	40
100	Potential-Dependent Morphology of Copper Catalysts During CO Electroreduction Revealed by In Situ Atomic Force Microscopy. *Angewandte Chemie - International Edition*, **2021**, 60, 2561-2568	16.4	40
99	Carbon Monoxide-Induced Stability and Atomic Segregation Phenomena in Shape-Selected Octahedral PtNi Nanoparticles. *ACS Nano*, **2015**, 9, 10686-94	16.7	39
98	Catalytic decomposition of alcohols over size-selected Pt nanoparticles supported on ZrO2: A study of activity, selectivity, and stability. *Applied Catalysis A: General*, **2009**, 366, 353-362	5.1	39
97	Role of Boron and Phosphorus in Enhanced Electrocatalytic Oxygen Evolution by Nickel Borides and Nickel Phosphides. *ChemElectroChem*, **2019**, 6, 235-240	4.3	38
96	Thermal Stability and Segregation Processes in Self-Assembled Size-Selected AuxFe1-x Nanoparticles Deposited on TiO2(110): Composition Effects. *Journal of Physical Chemistry C*, **2009**, 113, 1433-1446	3.8	38
95	Revealing the CO Coverage-Driven C-C Coupling Mechanism for Electrochemical CO Reduction on CuO Nanocubes Raman Spectroscopy. *ACS Catalysis*, **2021**, 11, 7694-7701	13.1	38
94	Magnetism of step-decorated Fe on Pd(110). *Physical Review B*, **2001**, 64,	3.3	37
93	Selective 2-Propanol Oxidation over Unsupported Co3O4 Spinel Nanoparticles: Mechanistic Insights into Aerobic Oxidation of Alcohols. *ACS Catalysis*, **2019**, 9, 5974-5985	13.1	36
92	Ab Initio Cyclic Voltammetry on Cu(111), Cu(100) and Cu(110) in Acidic, Neutral and Alkaline Solutions. *ChemPhysChem*, **2019**, 20, 3096-3105	3.2	36
91	Role and Evolution of Nanoparticle Structure and Chemical State during the Oxidation of NO over Size- and Shape-Controlled Pt/Al2O3 Catalysts under Operando Conditions. *ACS Catalysis*, **2014**, 4, 1875-1884	13.1	35
90	Magnetic and structural properties of epitaxial Fe thin films on GaAs(0 0 1) and interfaces. *Journal of Magnetism and Magnetic Materials*, **2002**, 240, 407-409	2.8	35
89	Selectivity Control of Cu Nanocrystals in a Gas-Fed Flow Cell through CO Pulsed Electroreduction. *Journal of the American Chemical Society*, **2021**, 143, 7578-7587	16.4	35
88	Observation of the fcc-to-bcc Bain transformation in epitaxial Fe ultrathin films on Cu 3 Au(001). *Surface Science*, **2001**, 493, 338-360	1.8	34
87	Shape-Dependent Catalytic Oxidation of 2-Butanol over Pt Nanoparticles Supported on Al2O3. *ACS Catalysis*, **2014**, 4, 109-115	13.1	33
86	Comparative study of hydrothermal treatment and thermal annealing effects on the properties of electrodeposited micro-columnar ZnO thin films. *Thin Solid Films*, **2011**, 519, 7738-7749	2.2	33
85	Impact of lattice dynamics on the phase stability of metamagnetic FeRh: Bulk and thin films. *Physical Review B*, **2016**, 94,	3.3	32

84	Structural and electronic properties of micellar Au nanoparticles: size and ligand effects. *ACS Nano*, **2014**, 8, 6671-81	16.7	32
83	Epitaxial growth, magnetic properties, and lattice dynamics of Fe nanoclusters on GaAs(001). *Physical Review B*, **2007**, 76,	3.3	31
82	Enhanced Formic Acid Oxidation over SnO-decorated Pd Nanocubes. *ACS Catalysis*, **2020**, 10, 14540-14551	13.1	31
81	Atomic vibrations in iron nanoclusters: Nuclear resonant inelastic x-ray scattering and molecular dynamics simulations. *Physical Review B*, **2007**, 76,	3.3	30
80	Electrocatalytic CO2 Reduction on CuOx Nanocubes: Tracking the Evolution of Chemical State, Geometric Structure, and Catalytic Selectivity using Operando Spectroscopy. *Angewandte Chemie*, **2020**, 132, 18130-18139	3.6	29
79	Nanoepitaxy using micellar nanoparticles. *Nano Letters*, **2011**, 11, 5290-6	11.5	27
78	Enhanced thermal stability and nanoparticle-mediated surface patterning: Pt/TiO2(110). *Applied Physics Letters*, **2009**, 94, 083102	3.4	27
77	Chemically induced charge carrier production and transport in Pd□SiO2□□Si(111) metal-oxide-semiconductor Schottky diodes. *Physical Review B*, **2004**, 70,	3.3	27
76	Structure and vibrational dynamics of interfacial Sn layers in Sn/Si multilayers. *Physical Review B*, **2001**, 64,	3.3	26
75	Highly active single-layer MoS catalysts synthesized by swift heavy ion irradiation. *Nanoscale*, **2018**, 10, 22908-22916	7.7	26
74	Piece by Piece-Electrochemical Synthesis of Individual Nanoparticles and their Performance in ORR Electrocatalysis. *Angewandte Chemie - International Edition*, **2019**, 58, 8221-8225	16.4	25
73	An in situ transmission electron microscopy study of sintering and redispersion phenomena over size-selected metal nanoparticles: environmental effects. *Physical Chemistry Chemical Physics*, **2014**, 16, 18176-84	3.6	24
72	Nano-gold diggers: Au-assisted SiO(2)-decomposition and desorption in supported nanocatalysts. *ACS Nano*, **2013**, 7, 10327-34	16.7	24
71	Structure and phonon density of states of supported size-selected F57eAu nanoclusters: A nuclear resonant inelastic x-ray scattering study. *Applied Physics Letters*, **2009**, 95, 143103	3.4	24
70	Formation, thermal stability, and surface composition of size-selected AuFe nanoparticles. *Applied Physics Letters*, **2007**, 91, 113110	3.4	24
69	Selective CO2 Electroreduction to Ethylene and Multicarbon Alcohols via Electrolyte-Driven Nanostructuring. *Angewandte Chemie*, **2019**, 131, 17203-17209	3.6	23
68	Size-dependent evolution of the atomic vibrational density of states and thermodynamic properties of isolated Fe nanoparticles. *Physical Review B*, **2012**, 86,	3.3	23
67	High-energy phonon confinement in nanoscale metallic multilayers. *Physical Review B*, **2008**, 77,	3.3	23

66	Surface Segregation in CuNi Nanoparticle Catalysts During CO Hydrogenation: The Role of CO in the Reactant Mixture. *Journal of Physical Chemistry C*, **2019**, 123, 8421-8428	3.8	23
65	Identifying Structure-Selectivity Correlations in the Electrochemical Reduction of CO : A Comparison of Well-Ordered Atomically Clean and Chemically Etched Copper Single-Crystal Surfaces. *Angewandte Chemie - International Edition*, **2021**, 60, 19169-19175	16.4	22
64	Tuning the Structure of Pt Nanoparticles through Support Interactions: An in Situ Polarized X-ray Absorption Study Coupled with Atomistic Simulations. *Journal of Physical Chemistry C*, **2019**, 123, 10666-10676	3.8	21
63	Linking the evolution of catalytic properties and structural changes in copper-zinc nanocatalysts using EXAFS and neural-networks. *Chemical Science*, **2020**, 11, 3727-3736	9.4	21
62	Phonon density of states of self-assembled isolated Fe-rich Fe-Pt alloy nanoclusters. *Physical Review B*, **2009**, 80,	3.3	21
61	Microtomography-based CFD modeling of a fixed-bed reactor with an open-cell foam monolith and experimental verification by reactor profile measurements. *Chemical Engineering Journal*, **2018**, 353, 176-188	14.7	20
60	Size Effects on the Desorption of O2 from Au2O3/Au0 Nanoparticles Supported on SiO2: A TPD Study. *Journal of Physical Chemistry C*, **2008**, 112, 18543-18550	3.8	19
59	On the reversible deactivation of cobalt ferrite spinel nanoparticles applied in selective 2-propanol oxidation. *Journal of Catalysis*, **2020**, 382, 57-68	7.3	17
58	Epitaxial growth and interfacial structure of Sn on Si()-(7). *Surface Science*, **2002**, 506, 33-46	1.8	16
57	Operando NRIXS and XAFS Investigation of Segregation Phenomena in Fe-Cu and Fe-Ag Nanoparticle Catalysts during CO Electroreduction. *Angewandte Chemie - International Edition*, **2020**, 59, 22667-22674	16.4	16
56	Segregation Phenomena in Size-Selected Bimetallic CuNi Nanoparticle Catalysts. *Journal of Physical Chemistry B*, **2018**, 122, 919-926	3.4	15
55	Probing the Dynamic Structure and Chemical State of Au Nanocatalysts during the Electrochemical Oxidation of 2-Propanol. *ACS Catalysis*, **2016**, 6, 3396-3403	13.1	15
54	Hydrogen Evolution from Metal Surface Hydroxyl Interaction. *Journal of Physical Chemistry C*, **2014**, 118, 17717-17723	3.8	15
53	Magnetism and interface properties of epitaxial Fe films on high-mobility GaAs/Al0.35Ga0.65As(001) two-dimensional electron gas heterostructures. *Applied Physics Letters*, **2003**, 82, 1072-1074	3.4	15
52	On the Activity/Selectivity and Phase Stability of Thermally Grown Copper Oxides during the Electrocatalytic Reduction of CO. *ACS Catalysis*, **2020**, 10, 11510-11518	13.1	15
51	Operando high-pressure investigation of size-controlled CuZn catalysts for the methanol synthesis reaction. *Nature Communications*, **2021**, 12, 1435	17.4	15
50	Steering the structure and selectivity of CO2 electroreduction catalysts by potential pulses. *Nature Catalysis*, **2022**, 5, 259-267	36.5	15
49	A MIS device structure for detection of chemically induced charge carriers. *Sensors and Actuators B: Chemical*, **2004**, 99, 556-561	8.5	13

48	Size-dependent adhesion energy of shape-selected Pd and Pt nanoparticles. *Nanoscale*, **2016**, 8, 11635-41	7.7	13
47	Trends in der Bindungsstärke von Oberflächenspezies auf Nanopartikeln: Wie verändert sich die Adsorptionsenergie mit der Partikelgröße?. *Angewandte Chemie*, **2013**, 125, 5282-5287	3.6	12
46	Growth Dynamics and Processes Governing the Stability of Electrodeposited Size-Controlled Cubic Cu Catalysts. *Journal of Physical Chemistry C*, **2020**, 124, 26908-26915	3.8	12
45	Surface oxygen Vacancies on Reduced Co O (100): Superoxide Formation and Ultra-Low-Temperature CO Oxidation. *Angewandte Chemie - International Edition*, **2021**, 60, 16514-16520	16.4	12
44	Is There a Negative Thermal Expansion in Supported Metal Nanoparticles? An in Situ X-ray Absorption Study Coupled with Neural Network Analysis. *Journal of Physical Chemistry C*, **2019**, 123, 20594-20604	3.8	11
43	Water Solvation of Charged and Neutral Gold Nanoparticles. *Journal of Physical Chemistry B*, **2019**, 123, 6521-6528	3.4	10
42	Dynamic transformation of cubic copper catalysts during CO electroreduction and its impact on catalytic selectivity. *Nature Communications*, **2021**, 12, 6736	17.4	10
41	Influence of interfaces on the phonon density of states of nanoscale metallic multilayers: Phonon confinement and localization. *Physical Review B*, **2018**, 98,	3.3	9
40	Enhanced hyperfine magnetic fields for face-centered tetragonal Fe(110) ultrathin films on vicinal Pd(110). *Physical Review B*, **2005**, 71,	3.3	9
39	Excitation wavelength independent sensitized Er3+ concentration in as-deposited and low temperature annealed Si-rich SiO2 films. *Applied Physics Letters*, **2009**, 95, 231109	3.4	8
38	Chalcogenide waveguide structures as substrates and guiding layers for evanescent wave Raman spectroscopy of bacteriorhodopsin. *Vibrational Spectroscopy*, **2006**, 42, 249-253	2.1	8
37	Assessing the Influence of Supercritical Carbon Dioxide on the Electrochemical Reduction to Formic Acid Using Carbon-Supported Copper Catalysts. *ACS Catalysis*, **2020**, 10, 12783-12789	13.1	8
36	Role of the Oxide Support on the Structural and Chemical Evolution of Fe Catalysts during the Hydrogenation of CO2. *ACS Catalysis*, **2021**, 11, 6175-6185	13.1	8
35	Shape-Selection of Thermodynamically Stabilized Colloidal Pd and Pt Nanoparticles Controlled via Support Effects. *Journal of Physical Chemistry C*, **2015**, 119, 29178-29185	3.8	7
34	Nano Pinstripes: TiO2 Nanostripe Formation by Nanoparticle-Mediated Pinning of Step Edges. *Journal of Physical Chemistry Letters*, **2012**, 3, 608-12	6.4	7
33	Thermal stability, atomic vibrational dynamics, and superheating of confined interfacial Sn layers in Sn/Si multilayers. *Physical Review B*, **2006**, 73,	3.3	7
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31	Pt-Sn-Co nanocubes as highly active catalysts for ethanol electro-oxidation. *Journal of Catalysis*, **2021**, 393, 247-258	7.3	7

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